PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application Number: 10/041,141

Filing Date: 1/3/2002

Applicant(s): Radhika Aggarwal, William H. Krebs,
Elizabeth A. Schreiber, David Styles

Entitled: INLINE ERROR HIGHLIGHTING

Examiner: Thu V. Huynh

Group Art Unit: 2178

Attorney Docket No.: RSW920010112US1

Commissioner For Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.131

Sir:

Radhika Aggarwal, William H. Krebs, Elizabeth A. Schreiber and David Styles, the applicants in the above-identified patent application, declare as follows:

We are the sole inventors of the subject invention claimed in the above-identified United States Patent Application Serial No. 10/041,141, filed January 3, 2002.

We have read and understood the office action mailed September 17, 2004 and the individual references cited therein, and we make this declaration in support of the patentability of the claims of the United States Patent Application Serial No. 10/041,141.

This declaration made under 37 CFR § 1.131 is made in response to the rejections of the claims in the foresaid office action under 35 USC § 103(a) based upon United States Patent Application Publication No. US 2003/0105884 to Upton et al.

Prior to October 2001, the date of filing of the provisional patent application to which Upton claims priority, we conceived the above-identified and claimed invention. As factual evidence of this, the following facts are entered with supporting documentation.

1. Sometime prior to October 2001, the applicants conceived of an in-line error highlighting system, method and apparatus, hereinafter the "Invention".

2. The Invention included an in-line error highlighting method having the following steps:

   a. detecting in a form-based submit, at least one validation error based upon a value provided through an input-element in a markup specified form;
   b. inserting a row in the markup specified form in a position which is proximate to the input-element, said row having a background color which differs from other colors which are visible in proximity to the inserted row;
   c. selecting error text corresponding to the validation error and inserting the selected error text in the row;
   d. further inserting an anchor tag in the markup specified form in a position which is proximate to the input-element; and,
   e. serving the markup specified form in a response to the form-based submit, the response referencing the anchor tag.

3. A disclosure document entitled "RSW8-2000-0307" describing an embodiment of the Invention (the "Disclosure") had been submitted to an attorney representing my employer, IBM Corporation, on December 20, 2000. A copy of the Disclosure, having redacted portions, has been attached hereto as Exhibit A.

4. At the time of submitting the Disclosure an experimental prototype of the Invention had been created and work had begun in producing a production version of the Invention.

5. On June 14, 2001, work commenced on a draft document which ultimately became United States Patent Application S/N 10/041,141 (the "Patent Application") and on October 29, 2001, we reviewed a final draft of the Patent Application.

6. On January 3, 2002, my employer, IBM Corporation, filed the Patent Application in the United States Patent Office.

It is respectfully submitted that the present patent application claims an invention which was conceived prior to October 2001, and reduced to practice with due diligence from before December 20, 2000 leading up to January 2002, the filing date of the present patent application. Accordingly, the Upton reference should be removed as a reference under 35 U.S.C. § 103(a).

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Date: 12/14/2004 Inventor Name: ____________
Radhika Aggarwal

Date: 12/15/2004 Inventor Name: ____________
William H. Krebs

Date: 12/15/2004 Inventor Name: ____________
Elizabeth A. Schreiber

Date: 12/13/2004 Inventor Name: ____________
David Styles

Exhibit A

Disclosure RSW8-2000-0307

Prepared for and/or by an IBM Attorney - IBM Confidential

Created By: Radhika Aggarwal **Created On:** 12/19/2000 02:39:58 PM
Last Modified By: Linda Dupont **Last Modified On:** 12/26/2000 08:48:47 AM

Required fields are marked with the asterisk (*) and must be filled in to complete the form .

***Title of disclosure (in English)**

Inline Error Highlighting for HTML 3.2 Clients

Summary

Status	Under Evaluation
Processing Location	RSW
Functional Area	
Attorney/Patent Professional	Gerald R Woods/Raleigh/IBM
IDT Team	
Submitted Date	12/20/2000 02:17:17 PM EST
Owning Division	
Lab	
Technology Code	
PVT Score	

Inventors with Lotus Notes IDs

Inventors: Radhika Aggarwal/Raleigh/IBM, David Styles/Raleigh/IBM, Beth Schreiber/Raleigh/IBM, William Krebs/Raleigh/IBM

Inventor Name	Inventor Serial	Div/Dept	Inventor Phone	Manager Name
> Aggarwal, Radhika				
Styles, David				
Schreiber, Elizabeth A. (Beth)				
Krebs, William H. (Bill)				

> denotes primary contact

Inventors without Lotus Notes IDs

IDT Selection

***Main Idea**

1. Describe your invention, stating the problem solved (if appropriate), and indicating the advantages of using the invention.

Needed to find a way to display dynamic error messages using only HTML 3.2. The error messages had to be displayed near the object with the invalid data. The messages also had to be created dynamically according to the data provided by the user.

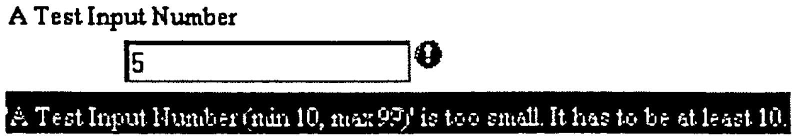
2. How does the invention solve the problem or achieve an advantage,(a description of "the invention", including figures inline as appropriate)?
The invention allows us to create dynamic error messages for HTML 3.2 Clients. When developing the solution, the following had to be taken into consideration:

- Presentation of the error message
- Handle various error messages for one object
- Visibility of the error message

Presentation

The presentation and placement of the error message was important part of the solution. The error message had to be placed where the user could understand which object was invalid. Generally, error messages are displayed in an "alert box" or the top of the page. We could not use an "alert box" because that required the use of JavaScript and our requirement was to use HTML 3.2 only. Using HTML 3.2 we could have placed our messages at the top of the page, however we wanted a more appropriate place for the error message. For example, if the error message and invalid object were really far a part on the page then the user may have scroll up and down to see the error message and the invalid object. We decided to place the error message right under the invalid object. By having the error message near the object, creates an environment where the object and error message is visible together. In order to place the error message beneath the object, we would reload the page and add an extra row underneath the object. This new row would contain the error message. We also place an image next to object to indicate that the object is invalid.

Another concern was to ensure that the displayed message was distinctive from the rest of the text on the page. If the error message does not have a different look from the regular text, then the user may overlook the error message. To achieve that effect the row, that was added in order to hold the error message, was given a background color. Normally, the text the surrounding an object on the page as a background color of white. By giving the error message a different background it made the message text look visually different from the regular text on the page.



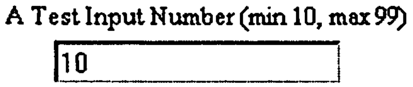
A Test Input Number

5

'A Test Input Number (min 10, max 99)' is too small. It has to be at least 10.

Error Messages

The back-end application can have various kinds of error messages for just one object. For example, if the page had an input field that only excepted a number between 10 and 99.



A Test Input Number (min 10, max 99)

10

Depending an the back-end application, this input field could have different kinds of error messages, such as:

- The data entered is not a number.
- The data entered is too small.
- The data entered is too big.

As we evaluate the data from the user the back-end application will indicate that this object has an error message. Once we receive the indication we will store the message so we know which message will be displayed. Then we insert the message into the row that was added. Thus the page will load with the message that was decided by the back-end application.

Visibility

Once we displayed the error message, another concern was that would the user always immediately know that there is an invalid object. For example, if the invalid object was towards the bottom of the page so then when the page reloads the invalid object may not be visible. If the invalid field is not visible immediately and since we do not place a message at the top of page indicating something is incorrect, then the user may be confused about why the page reloaded. Thus, we wanted the page to reload with the invalid object in the range of the window. To achieve this effect, we used the concept of jumping to a spot on the page by using the anchor tag and "#" in the URL. If an object was marked invalid we would add an anchor, whose name matched the word in the URL following "#", at the beginning of the object. By placing it at the beginning of the object, ensured that both the object and the error message would be visible, since error message is beneath the object.

Another concern with visibility was what if the page had multiple viewing areas (like a wizard or had tabs). Then the error could be on a different view then the one currently displayed. Thus, the user can not see the error message unless he/she manually went through each tab looking for it. To resolve this concern, we would set the view with the error field to visible and use the "#" and anchor tag technique. Our technique allows us to make any error message visible across any number of views.

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?
Many web pages support the display of error messages, however their approach does not meet our requirements. The two most common ways that error messages are handled are by displaying a "alert box" or placing the error messages at the top of the page. We could not use "alert boxes" because they are part of JavaScript and not HTML 3.2. WE could display the message at the top of page using only HTML 3.2, however that is not the visual effect we wanted to achieve.

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure details to others and the date of that implementation.
The invention is implemented in the Unity CSA Web-Served solution, which is currently under development. This product is a component in the Common System Administration tooling being developed to bring a more cohesive end-user experience and lower development cost to all IBM Administrative consoles.

Products using the Unity CSA console tooling will develop all their panels in an XML vocabulary known as AUIML. Unity CSA provides a Visual Builder to build the AUIML panels, a Java Swing renderer to render the panels in Java on an installed client platform, an HTML 3.2 renderer to render the panels in HTML on an HTML 3.2 compliant browser, a servlet to serve Unity CSA application over the web, a Console application, and APIs to interact with the Console and the panels. This tooling enables developers to create applications that run in multiple environments without the need to re-write the GUI. In the future, additional renderers will be provided to further leverage this technology.